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10/525,545	02/24/2005	Masahiko Seki	5576-176	6050
20792 7590 06/19/2009 MYERS BIGEL, SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627				
EXAMINER				
PEPITONE, MICHAEL F				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

***Response to Arguments***

The rejection of claims 1-2, 4-9, and 15-19 based upon Suka (US 5,824,709) and Khait (US 5,814,673) is maintained for reason of record and following response.

Suka (US '709) discloses a method of recycling foamed polystyrene via reduction of the volume of the foamed polystyrene in a volume reduction vessel which is heated to a predetermined temperature to reduce the volume in order to increase the efficiency of the dissolving bath (2:47-50; 2:55-62). The reduced volume polystyrene is then transferred to the dissolving bath (2:55-60) with subsequent heating at a temperature of 200 to 300 °C (3:15-17) and extrusion (3:15-17) {see Official action 3/30/09}.

Khait (US '673) discloses a method of recycling polymeric materials {polystyrene} (7:8) in which the polymeric material is first pulverized in an extruder. Khait discloses the material is preferably only subjected to frictional heating when pulverized (4:48-65; 9:24-29; 12:60-61; 13:1-3) with subsequent heating at a temperature of 200 to 300 °C (3:15-17) {see Official action 3/30/09}.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Khait (US '673) suggest solid state shear pulverization without heating reduces degradation, and energy consumption during the pulverization operation is also reduced

(4:48:65; 13:9-14). At the time of invention, a person having ordinary skill in the art would find it obvious to have substituted the volume reduction method of Khait (US '673), comprising solid state shear pulverization, for the initial volume reduction method disclosed in Suka (US '709), comprising heating the polystyrene to a predetermined temperature, and would have been motivated to do so since Khait (US '673) suggest solid state shear pulverization without heating reduces degradation, as well as energy consumption during the pulverization operation (4:48:65; 13:9-14).

Suka (US '709) was relied on for disclosing a method of recycling foamed polystyrene (2:47-50); and Khait (US '673) was relied on for disclosing a method of recycling polymeric materials {polystyrene} (7:8) via solid state shear pulverization without heating (4:48:65; 13:9-14). The combined teaching of Suka (US '709) and Khait (US '673) renders a method of recycling foamed polystyrene, which includes an initial solid state shear pulverization process without external heating of the polymeric material, obvious {see Official action 3/30/09}.

Howard *et al.* (US 5,217,660) was relied on for a method of recycling polystyrene foam pieces and processing to form expanded polystyrene articles (3:10-55; 4:14-21).

Fumio *et al.* (JP 2000-025602) was relied on for volume reduction of polystyrene foam in the presence of a methylene chloride and epoxide solution (Abstract, "Novelty", and "Advantage").

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL PEPITONE whose telephone number is (571)270-3299. The examiner can normally be reached on M-F, 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/  
Supervisory Patent Examiner, Art Unit 1796

MFP  
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